

From: [Jay Field](#)
To: [Eric Blischke/R10/USEPA/US@EPA](#)
Subject: Re: Bioassay Interpretation at Portland Harbor
Date: 06/15/2009 12:53 PM

Eric,
that is my understanding also.
Jay

Blischke.Eric@epamail.epa.gov wrote:

> I think it is prior to establishment of the reference envelope.

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> Eric

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Jay Field
<Jay.Field@noaa.gov>

06/15/2009 11:23 AM

Robert Gensemer

<rgensemer@parametrix.com>

To

cc

Eric Blischke/R10/USEPA/US@EPA,
Benjamin Shorr
<Benjamin.Shorr@noaa.gov>, Burt
Shephard/R10/USEPA/US@EPA, Chip
Humphrey/R10/USEPA/US@EPA, Joe
Goulet/R10/USEPA/US@EPA, Robert
Neely <Robert.Neely@noaa.gov>

Subject

Re: Bioassay Interpretation at
Portland Harbor

> I do not see anything in MacDonald and Landrum about how to deal with
> statistical significance once the reference envelope is established. If
> we're talking about samples that would be classified as Level 1, I could
> see some rationale for considering them as Level 1- for samples that
> are Level 2 or greater (>20% difference from 95th percentile of the
> reference envelope), those are likely low-power results and should
> retain their classification. FYI, according to my calculations, there
> are 24, 7, and 1 non-significant samples for Levels 1,2,&3 respectively.

> Jay

> Robert Gensemer wrote:

> Eric: That is my understanding as well. The 2008 MacDonald and
> Landrum report is pretty clear about this too, and further points
> out the need for the test of statistical significance (and the RE
> approach in general) to be conducted separately and independently
> for each of the four bioassay endpoints.
> -Bob

> -----Original Message-----

> From: Blischke.Eric@epamail.epa.gov [

> mailto:Blischke.Eric@epamail.epa.gov]

> Sent: Monday, June 15, 2009 9:35 AM

> To: Jay Field

> Cc: Benjamin Shorr; Shephard.Burt@epamail.epa.gov;

> Humphrey.Chip@epamail.epa.gov; Goulet.Joe@epamail.epa.gov; Robert

> Gensemer; Robert Neely

> Subject: Re: Bioassay Interpretation at Portland Harbor

> I agree that statistical significance was not part of the
> reference envelope approach but I thought that statistical
> significance needed to be taken into account in the comparison to
> negative control.

> Eric

Jay Field

<Jay.Field@noaa.gov>

To

Eric

Blischke/R10/USEPA/US@EPA

06/12/2009 04:15

cc

PM

Shephard/R10/USEPA/US@EPA,

Humphrey/R10/USEPA/US@EPA,

Eric

Burt

Chip

Joe Goulet/R10/USEPA/US@EPA,

jay.field@noaa.gov

cc

Humphrey/R10/USEPA/US@EPA

Chip

Subject

Interpretation at

Bioassay

Portland Harbor

At the AOPC meeting, it became apparent that our interpretation of the sediment bioassay results did not match the LWG's interpretation. I

am

interested in understanding the basis for this discrepancy. Based on

my

review of the data, the bioassay results match up with the bins that

we

established in Table RE-2 in our March 31, 2009 direction to LWG (see previous email). Last week, I put in a call to John Toll to try to understand the LWG's interpretation. Although I did not speak

directly

with John, he left me a voice mail that described 3 possibilities for the discrepancy:

- 1) The raw response rates differ slightly - e.g., 15% vs. 17%. John does not know why this is the case.
- 2) Significance Testing. The LWG used the biostats software. He indicated that this is a complicated procedure but that the LWG

followed

the decision tree associated with the software package and did not

make

any choices that were inconsistent with the decision tree. 3) The calculation of the level of the hit (e.g., low, moderate or severe toxicity) based on a comparison to the reference envelope was based on an added 10% to the reference envelop opposed to multiplying

by

the reference envelope value by 1.1 or 1.2.

I would like to set up a time to discuss this sometime this week. Please let me know when you might be available. I will work with John to hopefully have some information that we can use to focus the discussion.

[illegible]